CURRICULUM VITAE

John Daniel Bourland, PhD

CURRENT ACADEMIC TITLE: Associate Professor
Department of Radiation Oncology
Wake Forest University School of Medicine

CURRENT ADMINISTRATIVE TITLE: Head, Section of Physics
Department of Radiation Oncology
Wake Forest University School of Medicine

ADDRESS:

Residence ----------

Business: Department of Radiation Oncology
Wake Forest University School of Medicine
Medical Center Boulevard
Winston-Salem, NC 27157-1030

PERSONAL INFORMATION:

EDUCATION:

PhD	1990	Medical and Health Physics (minor in Medical Imaging) University of North Carolina, Chapel Hill, NC	1983 - 1990
Doctoral Study		Radiation Physics Medical College of Virginia, Richmond, VA	1982 - 1983
MSPH	1981	Medical and Health Physics University of North Carolina, Chapel Hill, NC	1979 - 1980
BS	1978	Physics, University of North Carolina, Chapel Hill, NC	1974 - 1978

SPECIALITY CERTIFICATION:

American Board of Radiology, Therapeutic Radiological Physics 1989

PROFESSIONAL LICENSURE:

State of North Carolina
Radiological Services, Reg. No. S-000242 1987 - 1989
Radiological Services, Reg. No. S-000516 2000 - present

EMPLOYMENT AND APPOINTMENTS:

Associate Professor, Department of Radiation Oncology 2001 - present
Wake Forest University School of Medicine, Winston-Salem, NC 27157-1030

Head, Section of Physics, Department of Radiation Oncology 1995 - present
Wake Forest University School of Medicine, Winston-Salem, NC 27157-1030

Assistant Professor, Department of Radiation Oncology 1995 - 2001
Wake Forest University School of Medicine, Winston-Salem, NC 27157-1030

Graduate Faculty, Department of Biomedical Engineering 1995 - present
Wake Forest University, Winston-Salem, NC 27157-1020

Graduate Faculty, Department of Physics 1996 - present
Wake Forest University, Winston-Salem, NC 27109

Senior Associate Consultant and Consultant, Division of Radiation Oncology 1990 - 1995
Mayo Clinic, Rochester, MN 55905

Assistant Professor of Radiologic Physics and Faculty in Biophysical Sciences 1990 - 1998
Mayo Medical School and Mayo Graduate School, Rochester, MN 55905

Clinical Physicist and Clinical Instructor, Department of Radiation Oncology 1987 - 1990
University of North Carolina, Chapel Hill, NC 27599

Clinical Physicist (full- and half-time), Division of Radiation Oncology 1984 - 1987
University of North Carolina, Chapel Hill, NC 27599

Physics Research Assistant, Division of Radiation Oncology 1983 - 1986
University of North Carolina, Chapel Hill, NC 27599

Radiation Safety Technician, Health and Safety Office 1981 - 1982
University of North Carolina, Chapel Hill, NC 27599

Research/Physics Assistant, Division of Radiation Physics 1979 - 1981
Duke University Medical Center, Durham, NC 27710

COSTEP (Student Trainee), Division of Compliance 1979
Bureau of Radiological Health, Rockville, MD 20857

PROFESSIONAL APPOINTMENTS AND SERVICE:

Extramural Service

American Board of Radiology

Oral Examiner in Therapeutic Radiologic Physics	1997, 1998, 1999, 2001, 2003
Member, Physics Recertification Committee	1998 - 2000
Member, Part I Written Examination Committee	2003 - present

Consultancies

Radiation Oncology Department Moore Memorial Hospital, Pinehurst, NC	1986
Radiation Oncology and Radiology Departments Iredell Memorial Hospital, Statesville, NC	2000 - 2001
Steven M. Ziegler, PA Hollywood, FL	2002

Editorial Work: manuscript referee:

Health Physics	1991, 1995, 1999, 2001
Medical Physics (guest assoc editor, 1997, 2003)	1988, 1990-1991, 1993-1999, 2000, 2003
Journal, American College of Medical Physics	2004
Journal of Neurosurgery	1992
Journal of Radiation Oncology, Biology, Physics	1990-1991, 1994, 1996 - 2003

Grant Proposal Reviewer, Charles Goodyear Cooperative Research and Development Grant Program, Yankee Ingenuity Initiative	1996, 2003
Host for Fulbright Visiting Scholar, Alexander Chalyi, PhD, Professor and Head, Medical Biophysics, National Medical University, Kiev, Ukraine	May 1998

National Institutes of Health, Bethesda, MD

National Cancer Institute, Workshop on Oncologic Imaging, Biomedical Imaging and Radiation Research Programs (invited)	October 1997
National Cancer Institute, Workshop on The Role of Biological Imaging for Radiation Oncology, Biomedical Imaging and Radiation Research Programs (invited)	April 2002
Center for Scientific Review, Special Emphasis Panel ZRG 1 CE-02 (invited)	2003

RTOG Affiliate Site Reviewer for Physics

St. Cloud Hospital, St. Cloud, MN	1994
Christ Hospital and Medical Center, Oak Lawn, IL	1994

Review Course Faculty, AAPM Therapy Physics Review Course	1995, 1996

Refresher Course Faculty

Radiological Society of North America	1997, 1998, 1999, 2003

Scientific and Professional Meeting Organization and Leadership

American Association of Physicists in Medicine

Co-Chair, Abstracts Reviewer, Conformal Radiotherapy and Treatment Planning Session — 1995

Co-Chair, Abstracts Reviewer, Stereotactic Radiosurgery Session — 1997, 99, 2001, 03

Co-Chair, Abstracts Reviewer, Treatment Techniques I Session — 2000, 2002

Organizer, Symposium on Molecular Imaging In Oncology (3 guest faculty) — 2002

Biomedical Imaging Research Opportunities Workshop (BIROW)

Organizing Committee (BIROW I) and Moderator, Image-Guided Therapy Session — 2002 - 2003

Organizing Committee (BIROW II, III) — 2003 - present

International Congress on Computers in Radiotherapy (ICCR), XIIth Meeting

Co-Chair, Treatment Planning Session — 1997

International Society for Optical Engineering (SPIE)

Meeting Abstracts Reviewer — 1996, 1998

Radiological Society of North America

Co-Organizer, Mini-Course on Molecular Imaging in Oncology (10 faculty) — 2003

Third International Conference on 3D Conformal Therapy

Chair, Lung Session — 1998

World Congress 2000 Organizing Committee

Editorial Board, www.wc2000.org — 1999 - 2000

Institutional Service

Wake Forest University

Faculty Forum Committee, School of Medicine — 1996 - 2001

Radiation Oncology Building Design Committee — 1999 - 2004

Radiation Safety Committee, School of Medicine — 2000 - 2003

Mayo Clinic

Quality Management Committee, Division of Radiation Oncology — 1993 -1995

Research Committee, Division of Radiation Oncology — 1991 -1995

Digital Image Transmission Committee, Dept. of Diagnostic Radiology — 1991 -1995

University of North Carolina

Chair, Quality Assurance Committee, Department of Radiation Oncology — 1988 - 1990

Radiation Safety Committee, School of Medicine — 1987 - 1990

Graduate Programs Committee, School of Public Health — 1986 - 1987

Radiation Oncology Building Design Committee — 1986 - 1990

PROFESSIONAL SOCIETY MEMBERSHIPS AND ACTIVITIES:

American Association of Physicists in Medicine (AAPM) — 1983 - present

Board of Directors, At-Large Member — 2002 - present

International Organization for Medical Physics (AAPM Delegate) — 2000 - present

International Affairs Committee — 2000 - present

African Affairs Subcommittee, Chair — 2000 - present

International Science Exchange Program — 2000 - present

American Association of Physicists in Medicine (cont)	
American Institute of Physics (AIP)	
Database and Online Service Subcommittee (AAPM Appointee)	1999 - present
Radiation Therapy Committee	1998 - present
Ad Hoc Working Group on Biological and Functional Imaging in RT	2000 - 2001
Sub-Com, Molecular Imaging in Clinical Radiation Oncology, Chair	2001 - present
Electronic Media Coordinating Committee, Chair	1997 - 2002
Education and Training of Medical Physicists Committee	1997 - 1999
Hyperthermia Subcommittee, Radiation Therapy Committee	1996 - 1999
Educational Council, At Large Member, Liaison to Science Council	1994 - 1999
Science Council, At Large Member, Liaison from Educational Council	1994 - 1999
Subcommittee for "aapm.org", Computer Committee	1994 - 1996
Hyperthermia Committee	1992 - 1995
Task Group #41, Remote Afterloading Systems	1989 - 1992
North Central Chapter-AAPM (MN, ND, SD, WI)	1992 - present
President-elect and Program Chair; President	1993 - 1994; 1994 - 1995
Southeast Chapter-AAPM (AL, GA, MS, NC, SC, TN)	1996 - present
President-elect and Program Chair; President	1996 - 1997; 1997 - 1998
American College of Radiology	1994 - present
Committee on Education, Commission on Medical Physics	1999 - present
Minnesota Radiological Society (ACR)	1994 - 1995
North Carolina Chapter (ACR)	1996 - present
American Society of Radiologic Technologists	
Task Force on Hyperthermia	1988 - 1991
American Society for Therapeutic Radiology and Oncology	1991 - present
Emerging Technologies Subcommittee, Joint Economics Committee	2001 - present
Health Physics Society	1979 - present
North Carolina Chapter	1979 - present
North Central Chapter	1993 - 1999
North American Hyperthermia Group	1987 - 1997
Radiation Therapy Oncology Group, 3D-CRT Committee	1991 - 1995
Society of Physics Students	1976 - 1998
Co-president	1978

CLINICAL INITIATIVES

1. Microwave Hyperthermia Program, University of North Carolina (1983)
2. Radiation Oncology Facility, University of North Carolina (1990)
3. 3D Radiation Treatment Planning, Mayo Clinic (1992)
4. Ultrasound Hyperthermia Program, Mayo Clinic (1992)
5. 3D Radiation Treatment Planning, Wake Forest University (1997)
6. Outreach Radiation Oncology Facility (Elkin, NC), Wake Forest University (1999)
7. Gamma Knife Radiosurgery Program, Wake Forest University (1999)
8. Comprehensive Cancer Center Facility, Wake Forest University (1999 - 2004)

VISITING PROFESSORSHIPS:

1. Bourland JD. "What is Medical Physics?" and "A real-life scientist", North Park College, Chicago, IL, February, 1992.

2. Bourland JD. "Diagnostic radiology and imaging science in the United States," Department of Diagnostic Radiology and "Radiation treatment planning," Department of Radiation Therapy, University of Nairobi and Kenyatta National Hospital, Nairobi, Kenya, March, 1994.

3. Bourland JD. "Dueling Dose Distributions in 3D: Sterad vs. the Gamma Knife," University of Minnesota, Biophysical and Medical Physics Seminar, Minneapolis, MN, January, 1995.

4. Bourland JD. "Dueling Dose Distributions in 3D: Sterad vs. the Gamma Knife," University of Wisconsin, Medical Physics Seminar, Madison, WI, March, 1995.

5. Bourland JD. "Bioanatomic Imaging and Treatment in Radiation Oncology," MD Anderson Cancer Center, Houston, TX, October, 2002.

GRANTS:

1. Fraternal Order of the Eagles Cancer Research Fund (-------) 1991 - 1992
   New techniques for radiation therapy treatment planning
   Principal Investigators: J D Bourland and R A Robb
   Effort: 5%

2. National Institute of Health (NCI) 1-R01-CA59424-01 ($442,967) 1993 - 1996
   3-D image analysis of tumor volumes
   Principal Investigator: RA Robb
   Effort: 15% year 1 and year 2; 25% year 3

3. NC Baptist Hospitals Developmental Technology Grant A-01-97 ($------) 1996 - 2000
   Bio-anatomic radiation treatment planning
   Principal Investigator: JD Bourland
   Co-investigators: EG Shaw and JW Keyes/L Adler
   Effort: 10%

4. Varian Oncology Systems (-------- 1996 - 2000
   Bio-anatomic radiation treatment planning - F-18 misonidazole synthesis
   Principal Investigator: JD Bourland
   Co-Investigators: EG Shaw and L Adler

5. Varian Oncology Systems (-------) 2002 - 2003
   Bioanatomic radiation treatment planning for brain and lung
   Principal Investigator: JD Bourland
   Co-Investigator: MT Munley
   Effort: 20%

6. WFU Comprehensive Cancer Center, PUSH Grant CA 12197-30 (-------- 2004 – present
   Correlation of tumor biocomplexity with length of survival in
   glioblastoma multiforme (with Virginia Tech)
   Principal Investigators: WB Spillman and JD Bourland
   Co-Investigators: J Robertson, B Jortner, K Zimmerman, CA Stanton, EG Shaw

7. Varian Medical Systems (----------) Pending, 2004 - 2006
   Bioanatomic radiation treatment planning (pre-doc/post-doc fellowships)
   Principal Investigator: JD Bourland
   Co-Investigator: EG Shaw
   Effort: 0%

8. General Electric Medical Systems (----------) Pending, 2004 - 2005
   Bioanatomic radiation treatment planning (pre-doc/post-doc fellowships)
   Principal Investigator: JD Bourland
   Co-Investigator: EG Shaw
   Effort: 0%

9. Elekta Instruments, AB (----------) Pending, 2004 - 2006
   Bioanatomic radiation treatment planning (pre-doc/post-doc fellowships)
   Principal Investigator: EG Shaw
   Co-Investigator: JD Bourland
   Effort: 0%

CLINICAL PROTOCOLS AUTHORED:

Bio-anatomic radiation treatment planning, CCCWFU 91A97, Comprehensive Cancer Center, Wake Forest University 1996 - 1997

HONORS AND AWARDS:

Undergraduate Research Participant, Argonne National Laboratory	1977
Public Health Service Traineeship, University of North Carolina	1979 - 1980
A. D. Williams Predoctoral Fellowship, Medical College of Virginia	1982 - 1983
Physics Research Assistantship, University of North Carolina	1983 - 1986
Best Scientific Exhibit (co-author), 27th Annual Meeting of the AAPM	August 1985
Alpha Phi Omega, Theta Chapter, Honorary Public Health Society	April 1988

Sigma Xi, Mayo Foundation Chapter, Wake Forest University Chapter	1991 - present
Profiled in *Physics Today*	September 1993
Best Paper Award, Southeast Chapter of the AAPM	March 2000
Fellow, American Association of Physicists in Medicine	2002

PATENTS:

1.	Radiotherapy treatment using medial axis transformation, US Patent 6,201,988	March 2001

BIBLIOGRAPHY

Journal Articles (refereed)

1. Chaney EL, Rosenman JR, Sherouse GW, Bourland JD, Fuchs H, Pizer SM, Staab EV, Varia MA, Mahaley MS. Three dimensional display of brain and prostate implants. Endocur/Hyper Oncol 2:93-99, 1986.

2. Bourland JD, Reynolds KL, Chaney EL, Varia MA, Rosenman JG, McMurry HL, Simons AD. An integrated system for interstitial ^{192}Ir implants. Int J Radiat Oncol Biol Phys 13:455-463, 1987.

3. Sailer SL, Bourland JD, Rosenman JG, Sherouse GW, Chaney EL, Tepper JE. 3-D beams need 3-D names. Int J Radiat Oncol Biol Phys 19:797-798, 1990.

4. Sherouse GW, Bourland JD, Reynolds KL, McMurry HL, Mitchell TP, Chaney E. Virtual simulation in the clinical setting: some practical considerations. Int J Radiat Oncol Biol Phys 19:1059-1065, 1990.

5. Bourland JD, Chaney EL. A finite-size pencil beam model for photon dose calculations in three dimensions. Med Phys 19:1401-1412, 1992.

6. Bourland JD, McCollough KP. Static field conformal stereotactic radiosurgery: physical techniques. Int J Radiat Oncol Biol Phys 28:471-479, 1994.

7. Bourland JD, Wu QR. Use of shape for automated, optimized 3D radiosurgical treatment planning. Lect Notes Comput Sc 1131:553-558, 1996.

8. Robb RA, Camp JJ, Bourland JD, Jack CR, O'Neill BP. Tumor volume analysis using 3-D image registration and segmentation by feature analysis. Series in Med Life Sci Engin, J Biomed Eng Soc of India 14:106-115, 1997.

9. Wu JQ, Bourland JD. Morphology-guided radiosurgery treatment planning and optimization for multiple isocenters Med Phys 26:2151-2160, 1999.

10. Wu JQ, Bourland JD. Three-dimensional skeletonization for computer-assisted treatment planning in radiosurgery. Comput Med Imaging Graph 24: 243-251, 2000.

11. Wu JQ, Bourland JD. A study and automatic solution for multi-shot treatment planning for the Gamma Knife. J Radiosurgery 3: 77-84, 2000.

12. Morris DE, Bourland JD, Rosenman JG, Shaw EG. Three-dimensional conformal radiation treatment planning and delivery for low- and intermediate-grade gliomas. Semin Radiat Oncol 11: 124-137, 2001 (review).

13. Ekstrand EK, Bourland JD. A film technique for the determination of output factors and end effect times for the Leksell Gamma Knife. Phys Med Biol 46: 703-706, 2001.

14. Hinson WH and Bourland JD, Spectral reconstruction of high energy photon beams for kernel based dose calculations. Med Phys. 29:1789-1796, 2002.

15. Steiber VW, Bourland JD, Tome WA, Mehta M. Gentlemen (and ladies), choose your weapons: Gamma Knife vs. linear accelerator radiosurgery. Tech Cancer Treat Res 2(2):79-86, 2003.

16. Bourland JD, Shaw EG. The evolving role of biological imaging in stereotactic radiosurgery. Tech Cancer Treat Res 2(2):135-140, 2003.

17. Hendee WR, Bourland JD. Image-guided intervention. Acad Radiol. 10(8):896-900, 2003.

18. Carson PL, Giger M, Welch MJ, Halpern H, Kurdziel K, Vannier M, Evelhoch JL, Gazelle GS, Seltzer SE, Judy P, Hendee WR, Bourland JD. Biomedical Imaging Research Opportunities Workshop: Report and Recommendations. Radiology 229(2):328-39, 2003.

19. Ekstrand KE, Hinson WH, Bourland JD, deGuzman AF, Stieber VW, Tatter SB, Ellis TL. The use of a Leksell-BRW adapter for linac radiosurgery as an adjunct to Gamma Knife treatment. Phys Med Biol 48:4105-4110, 2003.

20. ---------- (accepted, 2003).

Editorials:

1. Bourland JD. Point-Counterpoint: The PhD degree is a handicap in the job market for clinical medical physicists. Med Phys 27:2641-2643, 2000.

2. Bourland J. American Association of Physicists in Medicine. Oncology Issues 16: 17, 2001.

Book and Chapters:

1. Glasgow GP, Bourland JD, Grigbsy PW, Meli JA, Weaver KA. American Association of Physicists in Medicine Report No. 41, Remote Afterloading Technology (American Institute of Physics, New York, 1993).

2. Shaw EG, Bourland JD, Marshall MG, "Cancers of the Central Nervous System," in Treatment Planning in Radiation Oncology, Khan FM.. Potish RA, Eds. Williams and Wilkins, 1998.

3. Watson G, Marshall MG, Dezarn WA, Bourland JD, Shaw EG. "Central Nervous System Tumors," in Technological Basis of Radiation Therapy, (3rd Edition) Levit SH, Khan FM, Potish RA, Perez C. Eds., Williams & Wilkins, 1999.

4. Bourland JD. "Radiation Oncology Physics," in Clinical Radiation Oncology, Gunderson LL, and Tepper JE, WB Saunders Company, Philadelphia, 2000.

Proceedings (Chapters):

1. Fatouros PP, Goodman H, Rao GU, Beachley MC, Jani SK, Bourland JD. Absorbed dose and image quality in xeromammography, in Application of Optical Instrumentation in Medicine XI, Proc SPIE 419:37-41, 1983.

2. Bourland JD, Camp JJ, Robb RA. Volume rendering: application in static field conformal

radiosurgery, in Visualization in Biomedical Computing, Proc SPIE 1808:584-587, 1992.

3. Bourland JD, Gunderson LL, Petersen IA, Dahl RA, Coster JR, Taylor MD. Intraoperative hyperthermia via IORT electron applicator cones, in Intraoperative Radiation Therapy, Proc 4th International Symposium on IORT, F. W. Schildberg (ed), Essen: Verlag Die Blaue Eule, 1993.

4. Wu QR, Bourland JD, Robb RA. Morphology guided radiotherapy treatment planning and optimization, in Medical Imaging 1996: Image Display, Proc SPIE 2707:180-189, 1996.

5. Wu QR, Bourland JD, Robb RA. Fast 3D medial axis transformation to reduce computation and complexity in radiosurgery treatment planning, in Medical Imaging 1996: Image Processing, Proc SPIE 2710: 562-571, 1996.

6. Persons TM, Webber RL, Hemler PF, Bettermann W, Bourland JD. Brachytherapy volume visualization, in Medical Imaging 2000: Image Display and Visualization. Proc SPIE 3976:45-56, 2000.

7. Ekstrand KE, Bourland JD, Hinson WH. The Output Factors and End Effect Times for the Leksell Gamma Knife. Paper 3760-12263, CD-ROM Proceedings of the World Congress on Medical Physics and Biomedical Engineering, 2 pages, Chicago, IL, July, 2000.

8. Hampton CJ, Bourland JD. Few-view cone-beam tomographic reconstruction using an amorphous silicon (A-SI) electronic portal imaging device (EPID), 7th International Workshop on Electronic Portal Imaging - EPI2K2, Vancouver, BC, Canada, June, 2002.

Journal Articles (non-refereed)

1. Sherouse GW, Bourland JD, Chaney EL, Naves JL, Rosenman JG, Varia MA. Evaluation of image transformation software and ink jet printer for output of CT-based treatment plans. J Amer Assoc Med Dosimet XI:31-36, 1986.

Abstracts:

1. Bourland JD, Bagne F, Wong TZ, Jenneman PV. Evaluation of a water immersible, thin-walled ionization chamber. Med Phys 7:425, 1980.

2. Fatouros PP, Goodman H, Rao GU, Beachley MC, Jani SK, Bourland JD. Absorbed dose and image quality in xeromammography. Am J Roentgen 141: (6), 1356, 1983.

3. Chaney EL, Bourland JD, Fuchs H, Mahaley MS, Naves JL, Pizer SM, Rosenman JG, Sherouse GW, Staab EV, Varia MA, Whaley R. Planning stereotactic ^{125}I implants of the brain using interactive 2D and 3D graphics. Med Phys 12:529, 1985.

4. Bourland JD, Chaney EL, Kirsch M, McMurry HL, Reynolds K L, Rosenman JG, Varia MA. A system for efficient afterloading and removal of interstitial ^{192}Ir ribbons. Med Phys 12:547, 1985.

5. Sherouse GW, Chaney EL, Bourland JD, Naves JL, Rosenman JG, Varia MA. Evaluation of image transformation software used with an ink jet printer for hardcopy output of radiotherapy treatment plans

superimposed on digital medical images. Med Phys 12:547, 1985.

6. Bourland JD, Chaney EL, Kirsch M, McMurry HL, Reynolds KL, Rosenman JG, Varia MA. An integrated system for efficient preparation, afterloading and removal of interstitial Iridium-192 ribbons. Int J Radiat Oncol Biol Phys 11, Supp 1, 96, 1985.

7. Chaney EL, Bourland JD, Fuchs H, Mahaley MS, Naves JL, Pizer SM, Rosenman JG, Sherouse GW, Staab EV, Varia MA, Whaley R. 3D treatment planning from CT scans using fast interactive shaded graphics. Int J Radiat Oncol Biol Phys 11, Supp 1, 164, 1985.

8. Wilson BM, Chaney EL, Bourland JD, Previtte RG. Planning of shielded brachytherapy patient rooms as new hospital construction. Med Phys 13:608, 1986.

9. Bourland JD, Sherouse GW, Chaney EL, Reynolds KL, Varia MA. Modeling of dynamic sources in remote afterloading. Med Phys 14:477-478, 1987.

10. Bourland JD, Varia MA, Sherouse GW, Stancil PE, Stanley LD, Chaney EL, McMurry HL, Tepper JE. Incorporation of emerging technologies into the design of a radiation oncology facility: problems encountered. Phys Med Biol 33, Supp I, 55, 1988.

11. Sherouse GW, Bourland JD, Reynolds KL, McMurry HL, Mitchell T, Rosenman JG, Chaney EL. Virtual simulation in a physical world: some practical considerations. Phys Med Biol 33, Supp I, 79, 1988.

12. Carey EM, Sherouse GW, Bourland JD, Chaney EL. Water phantom measurements for verifying three dimensional dose calculations for megavoltage photon beams. Med Phys 16:473, 1989.

13. Bourland JD, Chaney E. Finite-size pencil beam model for 3-D photon dose calculations. Med Phys 16:473, 1989.

14. Bourland JD, McCollough KP. Static field conformal stereotactic radiosurgery: physical techniques. Int J Radiat Oncol Biol Phys 21, Supp 1, 173, 1991.

15. Bourland JD, Dahl RA, Coster JR. Ultrasound-induced intraoperative hyperthermia via intraoperative radiation therapy electron applicator cones. Med Phys 19:805, 1992.

16. Bourland JD, Camp JJ, Robb RA. Volume rendering in static field conformal stereotactic radiosurgery. Med Phys 19:843, 1992.

17. Bourland JD, Gunderson LL, Petersen IA, Dahl RA, Coster JR. Intraoperative hyperthermia via IORT electron applicator cones. Strahlenther Onkol 168:465, 1992.

18. Bourland JD. A method for radiosurgery with shaped, static fields: update. Acta Neurochir 122:176, 1993.

19. Bourland JD, McKean BJ, Kisrow K. Quality assurance in the delivery of 3-D treatment plans. Med Phys 20:875, 1993.

20. Foote R, Coffey R, Earle J, Schomberg P, Shaw E, Swanson J, Davis D, Kelly P, Horner S, Beatty C, Brey R, Robinette M, Bourland D, Kline R, McCullough E, Stevens L, O'Fallon J. Stereotactic radiosurgery using the Gamma Knife for acoustic neuromas. Int J Radiat Oncol Biol Phys 27, Supp 1,

151, 1993.

21. Robb RA, Bourland JD, Camp JJ, Taneja U, Jack CR, O'Neill BP, Earle JD, Scheithauer BW. Tumor volume analysis from 3-D images Proceedings of the PACS in Radiation Oncology Conference, Philadelphia, PA, July, 1994.

22. Bourland JD. Specifications for 3D radiation treatment planning systems. Med Phys 21:914, 1994.

23. Wu QR, Bourland JD. Comparison of shaped, static field linac radiosurgery with gamma knife radiosurgery. Med Phys 21:920, 1994.

24. Petersen IA, Herman RC, Bourland JD, Silbert PL, Dahl RA, Gunderson LL. Clinical and electrophysiologic changes in canines after intraoperative radiation (IORT) and intraoperative hyperthermia (IOHT). Hepato-Gastroenterol. 41:26, 1994.

25. Petersen IA, Herman RC, Bourland JD, Silbert PL, Dahl RA, Gunderson LL. Modifications cliniques et electrophysiologiques chez le chien apres RPO et hyperthermie per-operatoire (H.P.O). Lyon Chirurgical 90:231, 1994.

26. Bourland JD, Robb RA, Camp JJ, Taneja U, Jack CR, O'Neill P, Earle JD, Scheithauer BW. A semi-automated approach to quantitative assessment of tumor response. Proceedings of the 19th L. H. Gray Conference on Quantitative Imaging In Oncology, Newcastle, UK, April, 1995.

27. Wu QR, Bourland JD, Robb RA. Morphology guided radiotherapy treatment planning and optimization. Medical Imaging 1996: Program Guide, Exhibit Guide, Technical Abstracts, 2, 6, 1996.

28. Wu QR, Bourland JD, Robb RA. A fast 3D skeletonization algorithm to reduce computation and complexity in radiosurgery treatment planning. Medical Imaging 1996: Program Guide, Exhibit Guide, Technical Abstracts, 248, 1996.

29. Wu QR, Bourland JD. Fast 3D planning and optimization for multi-isocenter radiosurgery. Med Phys 23:1064, 1996.

30. Bourland JD, Ge Y, Wu QR. Rapid 3D medial axis transformation for automated planning of radiosurgical targets. Proc. XIIth Int. Conf. On the Use of Computers in Radiation Therapy, 252, 1997.

31. Bourland JD. The AAPM Electronic Media Coordinating Committee. Med Phys 24:1009, 1997.

32. Bourland JD. Stereotactic radiation treatment approaches and devices. Refresher Course No. 322, Proceedings of the RSNA, 1997.

33. Bourland JD. Automated planning of radiosurgical targets by the medical axis transform. Proceedings of LINAC 97, 1997.

34. Bourland JD. Symposium on the 'NCI Workshop on Oncologic Imaging, 1997'. Med Phys 25:A95, 1998.
35. Brinkmann D, Kline R, Bourland J. Automated bone segmentation from MR brain datasets for use in radiotherapy treatment planning. Med Phys 25:A207, 1998.

36. Dezarn WA, Bourland JD. Implementation of MLC in a university 3D radiation treatment planning

system. Med Phys 25:A208, 1998.

37. Bourland JD. Internet-based information for medical physicists. Med Phys 26:1055 1999.

38. Hinson WH, Bourland JD. Dose calculations of a 6MV photon bean using a finite-size pencil beam model. Med Phys 26:1165, 1999.

39. Hinson WH, Bourland JD. Spectral measurements of a 6MV photon beam for finite-size pencil beam dose calculations. Med Phys 26:1166, 1999.

40. Persons TM, Webber RL, Hemler PF, Bettermann W, Bourland JD. Brachytherapy volume visualization. In Medical Imaging 2000: Image Display and Visualization SPIE Proc 3976, 2000.

41. Bourland JD, Shaw EG, Adler LP, Harkness BA, Burdette JH,. Bio-anatomic 3D radiation treatment planning: concept and pilot study. Abstract 4839-99436, CD –ROM Proceedings of the World Congress on Medical Physics and Biomedical Engineering, July, 2000.

42. Bourland RE, Bourland JD. Analysis of brain tumor target volumes. Abstract 5167-30517, CD-ROM Proceedings of the World Congress on Medical Physics and Biomedical Engineering, July, 2000.

43. Ekstrand KE, Bourland JD, Hinson WH. The Output factors and end effect times for the Leksell Gamma Knife. Abstract 3760-12146, CD-ROM Proceedings of the World Congress on Medical Physics and Biomedical Engineering, 1 page, Chicago, IL, July, 2000.

44. Bourland, JD. Molecular and biological imaging for 3D radiation treatment: paradigm shift, pilot study, and imaging science. Med Phys 28:1126-1127, 2001

45. Bourland JD, Shaw EG, Adler LP, Harkness BA, Burdette JH. Bioanatomic 3-D radiation treatment planning for brain tumors: concept and study. Molecular Imaging 1(2):143, 2002.

46. Hinson WH, Kearns WT, deGuzman AF, Bourland JD. Spectral comparison of high energy photon beams. Med Phys 29(6):1200, 2002.

47. Bourland JD. Introduction to molecular imaging. Med Phys 29(6):1328, 2002.

48. Munley MT, Kearns WT, Hinson WH, Lee WR, Stieber VW, Blackstock AW, Bourland JD, Shaw EG. Bioanatomic IMRT treatment planning with dose function histograms. Int J Radiat Oncol Biol Phys 54:2, Supp, 126, 2002.

49. Ramsey, AF, Blurton M, Ekstrand K, Lovato J, Stieber V, Huang T, Bourland J, deGuzman A, Branch C, Ellis T, Tatter S, Shaw E. Edema following Gamma-Knife® radiosurgery for intracranial meningiomas, Int J Radiat Oncol Biol Phys 54:2, Supp, 146-147, 2002.

50. Shaw EG, Stieber V, Tatter S, Ellis T, Hinson W, Kearns W, Bourland JD, Munley M, Lesser G, Stanton C. A phase I dose escalating study of intensity modulated radiation therapy (IMRT) for the treatment of glioblastoma multiforme (GBM). Int J Radiat Oncol Biol Phys 54:2, Supp, 206, 2002.

51. Ekstrand K, Hinson W, Kearns W, deGuzman A, Bourland JD, Stieber V. A Leksell-BRW adapter for

linac radiosurgery as an adjunct to Gamma Knife treatment. Med Phys 30:1362, 2003.

52. Hampton C, Munley M, Bourland J. Cone-beam megavoltage computed tomography using ART-type reconstruction methods. Med Phys 30:1474, 2003.

53. Rivard MJ, Goetsch SJ, Drzymala RE, Bourland JD, DeWerd LA, Gibbons JP, Ibbott GS, Kunungi KA, Moskvin V, Walker LD. A working group for improving consistency of quality assurance, treatment planning, and clinical implementation for Gamma Knife® stereotactic radiosurgery. Proceedings of the 12th International Meeting of the Leksell Gamma Knife Society, 91, 2004.

54. Stieber VW, Ellis TL, Bourland JD, Tatter SB, Huang TW, Ekstrand KE, deGuzman AF, Munley MT, McMullen KP, Branch C, Shaw EG. Glossopharyngeal neuralgia treated with Gamma Knife® radiosurgery: treatment outcome and failure analysis. . Proceedings of the 12th International Meeting of the Leksell Gamma Knife Society, 109, 2004.

By Title:

1. Bourland JD, Reynolds KL, Simons AD, Varia MA. An exposure reducing system for preparation of ^{192}Ir for interstitial implants. Med Phys 12:499, 1985.

2. Wu QR, Bourland JD. An approach based on target shape for optimal treatment planning on the gamma unit. Med Phys 22:906, 1995.

3. Bourland JD, Wu QR. The medial axis transform: a target shape parameter useful for treatment planning. Med Phys 22:907, 1995.

4. Hokanson DA, Bourland JD. Magresigraphs: digitally reconstructed radiographs from MR images and their use in 3D radiation treatment planning. Med Phys 22:907, 1995.

5. Brinkmann DA, Kline RW, Bourland JD. 3D treatment planning on coronal MR images. Med Phys 23:1038, 1996.

6. Persons TM, Bourland, JD. Three dimensional regularized tomosynthetic image restoration. 2001 ----------, AAPM, 2001.

Book Reviews:

1. Bourland JD. "Practical Radiation Safety Manuals: Manual on Brachytherapy, Manual on therapeutic Uses of Iodine-131, and Manual on High Energy Teletherapy," Health Physics Society Newsletter 21(5):10, 1993.

2. Bourland JD. "The Physics of 3-D Radiation Therapy: Conformal Radiotherapy, Radiosurgery and Treatment Planning," Health Physics 65:566, 1993.

3. Bourland JD. "Radiotherapy Physics. In Practice," Health Physics 67:673 - 674, 1994.

4. Bourland JD. "3D Radiation Treatment Planning and Conformal Therapy," AJR 168: 28, 1997.

Dissertations:

1. Bourland JD. Evaluation of a parallel plate water immersible ionization chamber. Master's Technical Report, School of Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, 1981.

2. Bourland JD. A finite-size pencil beam model for three-dimensional photon dose calculations. Doctoral Dissertation, School of Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, 1990.

Letters:

1. Bourland JD. ICRU 50 Revisited. Health Physics 69:580, 1995.

PRESENTATIONS:

1. Bourland JD, Bagne F, Wong TZ, Jenneman PV. Evaluation of a water immersible, thin-walled ionization chamber. 22nd Annual Meeting of the AAPM, Minneapolis, MN, July, 1980.

2. Bourland JD. Clinical hyperthermia update. Third Annual Dosimetry Workshop, American Association of Medical Dosimetrists (AAMD) Region V Meeting, Chapel Hill, NC, October, 1984. (invited)

3. Bourland JD, Reynolds KL, Simons AD, Varia MA. An exposure reducing system for preparation of ^{192}Ir for interstitial implants. 27th Annual Meeting of the AAPM, Seattle, WA, August, 1985.

4. Bourland JD, Chaney EL, Kirsch M, McMurry HL, Reynolds KL, Rosenman JG, Varia MA. An integrated system for efficient preparation, afterloading and removal of interstitial Iridium-192 ribbons. 27th Annual Meeting of the ASTRO, Miami Beach, FL, October, 1985.

5. Bourland JD. Hyperthermia in cancer therapy. 48th Annual Meeting of the North Carolina Society of Radiologic Technologists, High Point, NC, May, 1986. (invited)

6. Bourland JD. Patient positioning and immobilization in radiation therapy. 49th Annual Meeting of the North Carolina Society of Radiologic Technologists, High Point, NC, May, 1987. (invited)

7. Bourland JD, Sherouse GW, Chaney EL, Reynolds KL, Varia MA. Modeling of dynamic sources in remote afterloading. 29th Annual Meeting of the AAPM, Detroit, MI, July, 1987.

8. Sherouse GW, Bourland JD, Reynolds KL, McMurry HL, Mitchell T, Rosenman JG, Chaney EL. Virtual simulation in a physical world: some practical considerations. World Congress on Medical Physics and Biomedical Engineering, San Antonio, TX, August, 1988.

9. Bourland JD, Varia MA, Sherouse GW, Stancil PE, Stanley LD, Chaney EL, McMurry HL, Tepper JE. Incorporation of emerging technologies into the design of a radiation oncology facility: problems encountered. World Congress on Medical Physics and Biomedical Engineering, San Antonio, TX, August, 1988.

10. Carey EM, Sherouse GW, Bourland JD, Chaney EL. Water phantom measurements for verifying three dimensional dose calculations for megavoltage photon beams. 31st Annual Meeting of the AAPM, Memphis, TN, July, 1989.

11. Bourland JD, Chaney EL. Finite-size pencil beam model for 3-D photon dose calculations. 31st Annual Meeting of the AAPM, Memphis, TN, July, 1989.

12. Bourland JD. 3-D treatment planning. North Central Cancer Treatment Group, Rochester, MN, October, 1991. (invited)

13. Bourland JD, McCollough KP. Static field conformal stereotactic radiosurgery: physical techniques. 33rd Annual Meeting of the ASTRO, Washington, D.C., November, 1991.

14. Bourland JD. Workshop on Intraoperative Hyperthermia Techniques, 6th International Congress on Hyperthermic Oncology, Tucson, AZ, April-May, 1992. (invited panelist)

15. Bourland JD. Multi-directional, fixed field conformational stereotactic radiology: fact or fiction. Annual Meeting of the NCC-AAPM, La Crosse, WI, May, 1992.

16. Bourland JD, Dahl RA, Coster JR, Taylor MD. Ultrasound-induced intraoperative hyperthermia via intraoperative radiation therapy electron applicator cones. 34th Annual Meeting of the AAPM, Calgary, Alberta, Canada, August, 1992.

17. Bourland JD, Camp JJ, Robb RA. Volume rendering in static field conformal stereotactic radiosurgery. 34th Annual Meeting of the AAPM, Calgary, Alberta, Canada, August, 1992.

18. Kline RW, Anderson JA, Blackwell CR, Bourland JD, Dahl RA, McCollough KP, McCullough EC, Mellenberg DE. Matching five photon beams: update. 34th Annual Meeting of the AAPM, Calgary, Alberta, Canada, August, 1992.

19. Bourland JD, Gunderson LL, Petersen IA, Dahl RA, Coster JR. Intraoperative hyperthermia via IORT electron applicator cones. 4th International Symposium on IORT, Munich, Germany, September, 1992.

20. Bourland JD, Camp JJ, Robb RA. Volume rendering: application in static field conformal radiosurgery. Visualization in Biomedical Computing '92, Chapel Hill, NC, October, 1992.

21. Kisrow K, Bourland JD. Clinical application of 3-D treatment planning. Annual Meeting of the AAMD, June, 1993. (also presented at the Iowa Regional ASRT meeting, 1993, and the Annual Meeting of the ASRT, San Francisco, October, 1994)

22. Bourland JD. A method for radiosurgery with shaped, static fields: update. 1st Congress of the International Stereotactic Radiosurgery Society, Stockholm, June, 1993.

23. Bourland JD, McKean BJ, Kisrow K. Quality assurance in the delivery of 3-D treatment plans. 35th Annual Meeting of the AAPM, Washington, DC, August, 1993.

24. Foote R, Coffey R, Earle J, Shaw E, Swanson J, Davis D, Kelly P, Horner S, Beatty C, Brey R, Robinette M, Bourland D, Kline R, McCullough E, Stevens L, O'Fallon J. Stereotactic radiosurgery using the Gamma Knife for acoustic neuromas. 35th Annual Meeting of the ASTRO, New Orleans, LA, October, 1993.

25. Robb RA, Bourland JD, Camp JJ, Taneja U, Jack CR, O'Neil BP, Earle JD, Scheithauer BW. Tumor volume analysis from 3-D images. PACS in Radiation Oncology 94, Philadelphia, PA, July, 1994.

26. Bourland JD. Specifications for 3D radiation treatment planning systems. 36th Annual Meeting of the AAPM, Anaheim, CA, July, 1994.
27. Wu QR, Bourland JD. Comparison of shaped, static field linac radiosurgery with gamma knife radiosurgery. 36th Annual Meeting of the AAPM, Anaheim, CA, July, 1994.

28. Petersen IA, Herman RC, Bourland JD, Silbert PL, Dahl RA, Gunderson LL. Clinical and electrophysiologic changes in canines after intraoperative radiation (IORT) and intraoperative hyperthermia (IOHT). 5th International Symposium on IORT, Lyon, France, September, 1994.

29. Bourland JD. Commencement Address. Radiation Therapy Technology Program, Mayo School of Health-Related Sciences, Rochester, MN, September, 1994. (invited)

30. Taneja UJ, Camp, Bourland JD. Radiation treatment planning and tumor volume analysis. Demonstration, Visualization in Biomedical Computing 1994, Rochester, MN, October, 1994.

31. Bourland JD, Robb RA, Camp JJ, Taneja U, Jack CR, O'Neill BP, Earle JD, Scheithauer BW. A semi-automated approach to quantitative assessment of tumor response. 19th L. H. Gray Conference on Quantitative Imaging In Oncology, Newcastle, UK, April, 1995. Also presented at Annual Meeting of the NCC-AAPM, La Crosse, WI, May, 1995.

32. Bourland JD. Basic concepts: nuclear physics. AAPM Radiation Physics Review Course, Boston, MA, July 1995. (invited)

33. Hokanson DA, Bourland JD. Magresigraphs: digitally reconstructed radiographs from MR images and their use in 3D radiation planning. 37th Annual Meeting of AAPM, Boston, Ma, July, 1995.

34. Wu QR, Bourland JD. An approach based on target shape for optimal treatment planning on the gamma unit. 37th Annual Meeting of the AAPM, Boston, MA, July, 1995.

35. Bourland JD, Wu QR. The medial axis transform: a target shape parameter useful for treatment planning. 37th Annual Meeting of the AAPM, Boston, MA July, 1995.

36. Bourland JD. Wanderings and future directions in medical physics. Weekly Seminar Series, Department of Physics, Wake Forest University, September, 1995.

37. Bourland JD. Three-dimensional treatment planning and image transmission. Joint Meeting of the Minnesota Radiological Society, NCC-AAPM, and NCC-HPS, Rochester, MN, November, 1995. (invited)

38. Wu QR, Bourland JD, Robb RA. Morphology guided radiotherapy treatment planning and optimization. SPIE: Medical Imaging 1996, Conference on Image Display, Newport Beach, CA, February, 1996.

39. Wu QR, Bourland JD, Robb RA. Fast 3D medial axis transformation to reduce computation and Complexity in radiosurgery treatment planning. SPIE: Medical Imaging 1996, Conference on Image Processing, Newport Beach, CA, February, 1996.

40. Bourland JD, Wu QR Shape-based plan optimization for radiosurgery. Annual Meeting of the SEAAPM, Charleston, SC, April, 1996.

41. Bourland JD. Basic concepts: nuclear physics. AAPM Radiation Physics Review Course, Philadelphia, PA, July 1996. (invited)

42. Wu QR, Bourland JD. Fast 3D planning and optimization for multi-isocenter radiosurgery. 38th Annual Meeting of the AAPM, Philadelphia, PA, July, 1996.

43. Brinkmann DA, Kline RW, Bourland JD. 3D treatment planning on coronal MR images. 38th Annual Meeting of the AAPM, Philadelphia, PA, July, 1996.

44. Bourland JD. Radiation Oncology: Past, Present and Future. North Carolina ASRT Meeting, Forsyth Technical Community College, August, 1996. (invited)

45. Bourland JD. Towards optimal radiation treatment. Connectivity Expo, Piedmont Institute for Research and Technology, Winston-Salem, NC, September, 1996.

46. Bourland JD, Wu QR. Use of shape for automated, optimized 3D radiosurgical treatment planning. 4th International Conference, Visualization in Biomedical Computing, Hamburg, Germany, September, 1996.

47. Bourland JD. Radiosurgery techniques: shaped static fields, dosimetry comparisons, automated optimized treatment planning. III Congress of the Spanish Radiosurgery Society, Valencia, Spain, October, 1996. (invited)

48. Bourland JD. Update: Electronic Media Coordinating Committee. Annual Meeting of SEAAPM, Winston-Salem, NC, March, 1997.

49. Bourland JD, Ge Y, Wu QR. Rapid 3D medial axis transformation for automated planning of radiosurgical targets. XIIth Int. Conference on the Use of Computers in Radiation Therapy, June, 1997.

50. Bourland JD. The AAPM Electronic Media Coordinating Committee. 39th Annual Meeting of the AAPM, Milwaukee, WI, July 1997. (invited)

51. Bourland JD. Stereotactic radiation treatment approaches and devices. Refresher Course, RSNA, Chicago, IL, December, 1997. (invited)

52. Bourland JD. Automated planning of radiosurgical targets by the medial axis transform. LINAC 97, Orlando, FL, December, 1997.

53. Bourland JD. The Chinese Gamma Unit. Annual Meeting of the SEAAPM, Memphis, TN, March 1998.

54. Bourland JD. Symposium: NCI Workshop on Oncologic Imaging, 1997. 40th Annual Meeting of the AAPM, San Antonio, TX, August, 1998 (invited)

55. Brinkmann D, Kline R, Bourland J. Automated bone segmentation from MR brain datasets for use in radiotherapy treatment planning. 40th Annual Meeting of the AAPM, San Antonio, TX, August 1998.

56. Dezarn W, Bourland J. Implementation of MLC in a university 3D radiation treatment planning system. 40th Annual Meeting of the AAPM, San Antonio, TX, August, 1998.

57. Bourland JD. Stereotactic radiation treatment approaches and devices. Refresher Course, RSNA, Chicago, IL, December, 1998. (invited)

58. Bourland JD. Internet-based information for medical physicists. 41st Annual Meeting of the AAPM, Nashville, TN, July, 1999.

59. Hinson WH, Bourland JD. Dose calculations of a 6MV photon beam using a finite-size pencil beam model. 41st Annual Meeting of the AAPM, Nashville, TN, July, 1999.

60. Hinson WH, Bourland JD. Spectral measurements of a 6MV photon beam for finite-size pencil beam dose calculations. 41st Annual Meeting of the AAPM, Nashville, TN, July, 1999.

61. Bourland JD. Stereotactic radiation treatment approaches and devices. Refresher Course, RSNA, Chicago, IL, December, 1999. (invited)

62. Bourland JD. Helical and multi-slice CT in radiation oncology: planning, treatment, and quality assurance. Symposium on Helical and Multi-Slice CT, Southeast Chapter of the AAPM, March, 2000. (invited)

63. Bourland JD, Wu QJ. Morphology-guided radiosurgery treatment planning and optimization for multiple isocenters. Annual Meeting of the SEAAPM, Asheville, NC, March 2000. (invited: presentation for Best Paper Award for 1999)

64. Persons TM, Webber RL, Hemler PF, Bettermann W, Bourland JD. Brachytherapy volume visualization. SPIE Medical Imaging 2000: Image Display and Visualization, Newport Beach, CA, February, 2000.

65. Bourland JD, Shaw EG, Adler LP, Harkness BA, Burdette JH. Bio-anatomic 3D radiation treatment planning: concept and pilot study. World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July, 2000.

66. Bourland RE, Bourland JD. Analysis of brain tumor target volumes. World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July, 2000.

67. Ekstrand KE, Bourland JD, Hinson WH. The output factors and end effect times for the Leksell Gamma Knife. World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July, 2000.

68. Persons TM, Bourland, JD. Three dimensional regularized tomosynthetic image restoration. 43rd Meeting of the AAPM, Salt Lake City, UT, July 2001.

69. Bourland JD. Molecular and biological imaging for 3D radiation treatment: paradigm shift, pilot study, and imaging science. 43rd Annual Meeting of the AAPM, Salt Lake City, UT July 2001. (President's Symposium, invited)

70. Bourland JD. Introduction to molecular imaging. Spring Symposium on Molecular Imaging and Intensity Modulation in Radiation Therapy, Southeast Chapter of the AAPM, Knoxville, TN, May, 2002 (invited).

71. Bourland JD. Molecular imaging in radiation treatment: Summary. Spring Symposium on Molecular Imaging and Intensity Modulation in Radiation Therapy, Southeast Chapter of the AAPM, Knoxville, TN, May, 2002 (invited).

72. Hampton CJ, Bourland JD. Few-view cone-beam tomographic reconstruction using an amorphous silicon (A-SI) electronic portal imaging device (EPID). 7th International Workshop on Electronic Portal Imaging - EPI2K2, Vancouver, BC, Canada, June, 2002.

73. Hinson WH, Kearns WT, deGuzman AF, Bourland JD. Spectral comparison of high energy photon beams. 44th Annual Meeting of the AAPM, Montreal, Canada, July, 2002.

74. Bourland JD. Introduction to molecular imaging. 44th Annual Meeting of the AAPM, Montreal, Canada, July, 2002. (invited)

75. Munley MT, Kearns WT, Hinson WH, Lee WR, Stieber VW, Blackstock AW, Bourland JD, Shaw EG. Bioanatomic IMRT treatment planning with dose function histograms. 44th Annual Meeting of the ASTRO, New Orleans, LA, October, 2002.

76. Ramsey, AF, Blurton M, Ekstrand K, Lovato J, Stieber V, Huang T, Bourland J, deGuzman A, Branch C, Ellis T, Tatter S, Shaw E. Edema following Gamma-Knife® radiosurgery for intracranial meningiomas. 44th Annual Meeting of the ASTRO, New Orleans, LA, October, 2002.

77. Shaw EG, Stieber V, Tatter S, Ellis T, Hinson W, Kearns W, Bourland JD, Munley M, Lesser G, Stanton C. A phase I dose escalating study of intensity modulated radiation therapy (IMRT) for the treatment of glioblastoma multiforme (GBM). 44th Annual Meeting of the ASTRO, New Orleans, LA, October, 2002.

78. Ekstrand K, Hinson W, Kearns W, deGuzman A, Bourland JD, Stieber V. A Leksell-BRW adapter for linac radiosurgery as an adjunct to Gamma Knife treatment. 45th Annual Meeting of the AAPM, San Diego, CA, August, 2003.

79. Hampton C, Munley M, Bourland J. Cone-beam megavoltage computed tomography using ART-type reconstruction methods. 45th Annual Meeting of the AAPM, San Diego, CA, August, 2003.

80. Bourland, JD. Extraordinary opportunities in and the changing face of radiation physics research. Annual Meeting of the Society of Chairman of Academic Radiation Oncology Programs (SCAROP), Lake Tahoe, CA, August, 2003 (invited).

81. Bourland, JD. Bioanatomic treatment planning. Spring Symposium of the Delaware Valley Chapter, American Association of Physicists in Medicine, Philadelphia, PA, March, 2004 (invited).

82. Rivard MJ, Goetsch SJ, Drzymala RE, Bourland JD, DeWerd LA, Gibbons JP, Ibbott GS, Kunungi KA, Moskvin V, Walker LD. A working group for improving consistency of quality assurance, treatment planning, and clinical implementation for Gamma Knife® stereotactic radiosurgery. 12th International Meeting of the Leksell Gamma Knife Society, Vienna, Austria, May, 2004.

83. Stieber VW, Ellis TL, Bourland JD, Tatter SB, Huang TW, Ekstrand KE, deGuzman AF, Munley MT, McMullen KP, Branch C, Shaw EG. Glossopharyngeal neuralgia treated with Gamma Knife® radiosurgery: treatment outcome and failure analysis. 12th International Meeting of the Leksell Gamma Knife Society, Vienna, Austria, May, 2004.

84. Bourland JD. Physical science and engineering in medicine: the fields of medical physics and biomedical engineering. Laboratories for Learning BioSummer 2004, Winston-Salem Chamber of Commerce, Winston-Salem, NC, June, 2004.

Scientific Exhibits:

1. Bourland JD, Chaney EL, Kirsch M, McMurry HL, Reynolds KL, Rosenman JG, Varia MA. A system for efficient afterloading and removal of interstitial ^{192} Ir ribbons. 27th Annual Meeting of the AAPM, Seattle, WA, August, 1985.

2. Sherouse GW, Chaney EL, Bourland JD, Naves JL, Rosenman JG, Varia MA. Evaluation of image transformation software used with an ink jet printer for hardcopy output of radiotherapy treatment plans superimposed on digital medical images. 27th Annual Meeting of the AAPM, Seattle, WA, August, 1985.

3. Bourland JD, Chaney EL, Kirsch M, McMurry HL, Reynolds KL, Rosenman JG, Varia MA. An integrated system for efficient preparation, afterloading and removal of interstitial Iridium-192 ribbons. 27th Annual Meeting of the ASTRO, Miami Beach, FL, October, 1985 and Annual Meeting of the North Carolina Society of Radiologic Technologists, High Point, NC, May, 1986.

TEACHING PORTFOLIO

TEACHING RESPONSIBILITIES

Wake Forest University

Radiation Oncology Physics Fellows, School of Medicine

Supervisor for clinical and research activities of WA Dezarn, PhD 1996 - 1998
Current position: Physicist, Wake Radiology, Radiation Oncology
Co-Supervisor for MR imaging research activities of XD Guo, PhD 2004 - present

Radiation Oncology Residents, School of Medicine 1995 - present
Participant in orientation physics course for new residents,

Physics and Medical Engineering Graduate Students, Graduate School 1996 – present
Faculty for BMES 750 *Medical Imaging I* (3.0 hours) (MT Munley, Director) 2004
Course Director for BMES 770, *Radiation Therapy Physics* (3.0 hours) 2004
PhD Advisor for WH Hinson (PhD, Physics, 1999) 1996 - 1999
Current position: Assistant Professor, Wake Forest University
PhD Advisor for TM Persons (PhD, Medical Engineering, 2001) 1998 - 2001
Current position: Imaging Scientist, National Security Agency
PhD Advisor for CJ Hampton (PhD, Biomedical Engineering, 2003) 2000 - 2003
Current position: Clinical Resident, Washington University
MS Advisor for C Singleton (MS, Physics, 2003) 2002 – 2004
Current position: Medical Physicist, Memorial Hospital, Savannah, GA
PhD Committee member for H Li (fifth-year, Biomedical Engineering) 2003 – present
PhD Advisor for M Lawrence (second-year, Biomedical Engineering) 2004 – present
PhD Committee member for A Havnen (third-year, Biomedical Engineering) 2004 – present
PhD Committee member for X Li (second-year, Biomedical Engineering) 2004 – present
MS Committee member for T Atwood (second-year, Biomedical Engineering) 2004 – present

Medical Students, School of Medicine
Advisor for two first-year medical students 2001 - 2003

----------Opportunities Program, Graduate School
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PREVIOUS TEACHING RESPONSIBILITIES

Mayo Foundation

Radiation Oncology Residents, Graduate School of Medicine 1990 - 1995
Ten-hour orientation physics course for new residents
and portions of radiation physics course

Medical Physics and Imaging Science Graduate Students, Graduate School 1991 - 1995
Teacher for BPHY 8150, *Radiation Therapy Physics* (4.0 hours)
Graduate education coordinator for Division of Radiation Oncology
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Undergraduate Physics Students, Graduate School 1993, 1994
Project supervisor for two summer students

Mayo Foundation (cont)
Radiation Therapy Technology Students, School of Health-Related Sciences 1990 - 1995
Lecturer for portions of radiation therapy physics course

High School Student, Mayo Graduate School and Rochester, MN, Public Schools 1993
Mentor for one honors student

University of North Carolina, School of Medicine
Radiation Oncology Residents 1987 - 1990
Lecturer for portions of radiation therapy physics course

Medical Physics Graduate Students, School of Public Health 1985 - 1988
Lecturer and teaching assistant
ENVR 167, *Introduction to Medical Physics*

Dental Fellows, School of Dentistry 1986 - 1987
Lecturer on radiation therapy physics, ORAD 205
Advanced Diagnostic and Therapeutic Radiology

Medical Students, School of Medicine 1985 - 1987
Teaching assistant for laboratory portion of radiation
oncology course for second-year students

Radiation Therapy Technology Students, North Carolina Memorial Hospital 1984 - 1990
Lecturer for portions of radiation therapy physics course
Research advisor for five students

TEACHING RESPONSIBILITIES-EXTRAMURAL

AAPM Therapy Physics Review Course 1995, 1996
Lecturer, Basic Concepts: Nuclear Physics

Radiological Society of North America Refresher Course
Stereotactic Radiation Treatment Approaches and Devices 1997, 1998, 1999
Co-Organizer, Mini-Course on Molecular Imaging in Oncology (10 faculty) 2003